

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 143019.8SB	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IL 03/00205	International filing date (day/month/year) 13/03/2003	(Earliest) Priority Date (day/month/year) 13/03/2002
Applicant YEDA RESEARCH AND DEVELOPMENT CO. LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 08 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

DERIVATIVES OF 1, 3-CYCLIC PROPANEDIOL PHOSPHATE AND THEIR ACTION AS CELL STIMULANTS

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 2

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-14 (partially)

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-14 partially

Compound of formula I wherein n is 1, X is H, X' is H and Y is OR1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

2. Claims: 1-14 partially

Compound of formula I wherein n is 1, X is H, X' is H and Y is NHR1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

3. Claims: 1-14 partially

Compound of formula I wherein n is 1, X is OR, X' is H and Y is OR1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

4. Claims: 1-14 partially

Compound of formula I wherein n is 1, X is NHR, X' is H and Y is OR1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

5. Claims: 1-14 partially

Compound of formula I wherein n is 1, X is NHR, X' is CH₂OH and Y is OR1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

6. Claims: 1-14 partially

Compound of examples 10 and 11 (p 15: 2-methyl-1,3-cyclic propanediol phosphate and 1-methyl-1,3-cyclic propanediol phosphate) which do not fall under the scope of claim 1, the use thereof for the preparation of a medicament and a pharmaceutical composition comprising said compound.

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International Application No.
PCT/IL 03/00205A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K31/00 C07F9/6574

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K C07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 57865 A (SHINITZKY MEIR ;YEDA RES & DEV (IL)) 5 October 2000 (2000-10-05) the whole document	1-14
X	US 4 472 320 A (ASHANI YACOV ET AL) 18 September 1984 (1984-09-18) the whole document	1-14
X	KINOR N ET AL: "Cyclic glycerophosphates for the treatment of Parkinson's disease" NEUROSCIENCE LETTERS, LIMERICK, IE, vol. 54, no. supp, November 1999 (1999-11), page S24 XP002155523 ISSN: 0304-3940 the whole document	1-14
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *G* document member of the same patent family

Date of the actual completion of the international search

3 September 2003

Date of mailing of the international search report

18.09.03

Name and mailing address of the ISA

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SHINITZKY M ET AL: "INDUCTION OF INTRACELLULAR SIGNALLING BY CYCLIC GLYCEROPHOSPHATES AND THEIR DEOXY ANALOGUES" EUROPEAN JOURNAL OF BIOCHEMISTRY, BERLIN, DE, vol. 267, no. 9, May 2000 (2000-05), pages 2547-2554, XP000949262 ISSN: 0014-2956 the whole document	1-14
X	HENSCHLER ET AL: TOXICOLOGY IN VITRO, vol. 6, no. 4, 1992, pages 327-335, XP009011905 the whole document	1-14
X	LEES G ET AL: "A simple polar deacetylated caloporoside derivative is a positive modulator of the GABAA chloride channel complex in cortical mammalian neurones" BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, OXFORD, GB, vol. 10, no. 15, 7 August 2000 (2000-08-07), pages 1759-1761, XP004213241 ISSN: 0960-894X the whole document	1-14
X	HAIMOVITZ ET AL.: LIFE SCIENCES, vol. 69, 2001, pages 2711-2723, XP001152580 the whole document	1-14
X	WO 00 57864 A (SHINITZKY MEIR ;YEDA RES & DEV (IL)) 5 October 2000 (2000-10-05) the whole document	1-6
X	TYUNOSHIN UKITA ET AL: "ORGANIC PHOSPHATES I. SYNTHESIS OF 1,2-DIOL CYCLIC PHOSPHATES" PHARMACEUTICAL BULLETIN, PHARMACEUTICAL SOCIETY OF JAPAN, TOKYO,, JP, vol. 5, no. 2, 1957, pages 121-126, XP000949388 ISSN: 0369-9471 the whole document	1-5

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International Publication No

PCT/IL 85/00205

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	REVEL M ET AL: "HETEROCYCLES CONTENANT DU PHOSPHORE XXVII-ETUDE PAR RESONANCE MAGNETIQUE NUCLEAIRE DE QUELQUES DERIVES DES DIOXA-ET DITHIAPHOSPHOLANES-1,3,2 MONOSUBSTITUES EN 4" ORGANIC MAGNETIC RESONANCE, HEYDEN AND SONS LTD, XX, vol. 8, no. 8, 1976, pages 399-406, XP000949315 ISSN: 0030-4921 the whole document	1-5
X	AYRES D C ET AL: "THE ORGANIC CHEMISTRY OF PHOSPHORUS. PART V. THE ESTER-INTERCHANGE REACTION BETWEEN TRIPHENYL PHOSPHITE AND GLYCOLS" JOURNAL OF THE CHEMICAL SOCIETY, CHEMICAL SOCIETY, LETCHWORTH, GB, 1957, pages 1109-1114, XP000946300 ISSN: 0368-1769 the whole document	1-5
X	SU B ET AL: "IDENTIFICATION OF A PUTATIVE TUMOR MARKER IN BREAST AND COLON CANCER" CANCER RESEARCH, AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD, US, vol. 53, no. 8, 15 April 1993 (1993-04-15), pages 1751-1754, XP000946184 ISSN: 0008-5472 the whole document	1-5
X	SHINITZKY M ET AL: "FORMATION OF 1,3-CYCLIC GLYCEROPHOSPHATE BY THE ACTION OF PHOSPHOLIPASE C ON PHOSPHATIDYLGLYCEROL" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 268, no. 19, 5 July 1993 (1993-07-05), pages 14109-14115, XP000946147 ISSN: 0021-9258 the whole document	1-5
X	FR 2 209 553 A (ANVAR) 5 July 1974 (1974-07-05) the whole document	1-5
X	CHABRIER ET AL.: ANNALES PHARMACEUTIQUES FRANÇAISES, vol. 38, no. 1, 1980, pages 65-74, XP009011914 the whole document	1-5
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHABRIER ET AL.: ANNALES PHARMACEUTIQUES FRANÇAISES, vol. 36, no. 7-8, 1978, pages 341-348, XP009011915 the whole document	1-5
X	LEADER ET AL: ACS SYMPOSIUM SERIES (1981), 171 (PHOSPHORUS CHEM.), 1982, pages 179-182, XP001152762 the whole document	1-5
X	LAVEY B J ET AL: "Catalytic antibody mediated hydrolysis of paraoxon" JOURNAL OF ORGANIC CHEMISTRY, AMERICAN CHEMICAL SOCIETY. EASTON, US, vol. 61, no. 21, 18 October 1996 (1996-10-18), pages 7633-7736, XP002244436 ISSN: 0022-3263 Compound 8, p .7634, column 2	1,2,4
X	LAVEY B J ET AL: "Antibody catalyzed hydrolysis of a phosphotriester" BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, OXFORD, GB, vol. 6, no. 13, 9 July 1996 (1996-07-09), pages 1523-1524, XP004175745 ISSN: 0960-894X Compound 2, p. 1523	1,2,4

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0057865	A	05-10-2000	AU 3451700 A	16-10-2000
			BR 0009296 A	18-12-2001
			CA 2368597 A1	05-10-2000
			CN 1348375 T	08-05-2002
			EP 1162959 A2	19-12-2001
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			WO 0057864 A2	05-10-2000
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			AR 198713 A1	15-07-1974
			BE 808092 A1	30-05-1974
			DE 2359245 A1	12-06-1974
			JP 49094650 A	09-09-1974
			NL 7316813 A	11-06-1974